

BIOLOGICAL LIMITS IN THE DEVELOPMENT OF SOCIETY

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NO SUBJECT of sociological inquiry within recent years has proved to be more controversial than the effort to determine the relative importance of biological and of purely social factors in the development of human society. On the one hand we have a "biological" school, composed in great part of earnest experimentalists, whose views have been popularized by Stoddard, Grant, Goddard, and others. This group believes that differences in social status, whether racial, national or individual, represent fundamental inherited differences in biological structure and capacity. On the other hand we have a group referred to as the "cultural" or "anthropological" school, which regards racial and national differences, and to a large extent individual differences as well, as significant of acquired and socially perpetuated characters.

It may be useful to regard the opposing views as based in a disagreement over the location of what may figuratively be described as the *biological limits upon society*. It is the purpose of this paper to illustrate the concept, analogical though it be, by reference to some problems of social structure and organization.

For convenience we may think of human society as having lower and upper biological limits. Below the lower limits, society as we know it could not exist. Beyond the upper limits we may conceive of forms of society, Utopian or otherwise, which would be possible only by the continued biological evolution of the human species. From the evolutionary standpoint, then, the lower limits are those which we have already passed, while the

upper limits are those which we are approaching—if it be assumed that biological development of human structure is still in progress.* Between the lower and upper limits is a margin within which variability of human institutions is a function of social rather than of biological change. If the margin be conceived as narrow, an interest in the biological differences between groups of men necessarily results. Hopes of human progress will find expression in various efforts for eugenic reform. If the margin be conceived as wide, changes in social organization will receive attention as means of bringing about desired improvements in society. The differences in the views of biological and cultural determinists are fundamentally differences in belief as to the extent of the social changes which are possible within the existing biological limitations of the race.

It would not be difficult to multiply illustrations of the lower biological limits. In an entertaining little booklet,† Clarence Day, Jr., examines the biological possibilities and predispositions of mankind with the objectivity of "a man from Mars". It is due to the fact that we are *simians*, we are told, that hopes of permanent peace are possible of attainment. Simians do not really like to fight. If they did it would be unnecessary to lead us into battle with idealistic phrases concerning honor, patriotism or liberty. In a super-cat world, the carnage would be its own justification. Man, the civilized simian, feels little repression of instinct at limitations upon his "right" to fight, but let anyone at his peril re-

*A hypothesis which Conklin and other biologists have denied.

†*This Simian World*.

strain man's "right" to talk! Or suppose that a race of super-ants held sway over the larger affairs of earth. Unremitting toil would then be substantially the sole response to stimuli.

Language offers another illustration. Doubt appears to exist among anthropologists whether our cousins, the Neanderthal men, were able to communicate by a spoken language. If not, society in forms characteristic of peoples now living was *a priori* impossible among the Neanderthals. It is at least conceivable, in spite of their simian origin, that these people might have attained a high degree of intelligence, without developing language or the possibility of modes of social life characteristic of *Homo sapiens*. Such a development is difficult for modern man to conceive only because in his own evolution it was the factors that we call "social" that appear to have been most favored in the process of selection.

Still another illustration in the form of a problem of more limited application concerns the future racial composition of the United States. Stated briefly, the problem is whether there exists a biological tendency toward physical and mental morbidity and toward sterility in racial hybrids. Interest in this question was stimulated by a paper presented at the Second International Congress of Eugenics by a Norwegian scientist, Jon Alfred Mjoen.* Dr. Mjoen presented the results of experimental hybridization between "distant races" of rabbits, in the course of which progressive deterioration was observed. "The sexual instinct has for some of the individuals in the fifth generation almost disappeared and in the case of others the young ones die immediately after birth." He contends that these experiments substantiate a similar tendency

toward racial decay in the case of human hybridization between Lap and Nordic blood in Norway.

The evidence presented by Professor Walter F. Wilcox† that the negro population in the United States is not sustaining itself in numbers by reproduction in any section except the rural south, would be at least partially explained by proof of Dr. Mjoen's hypothesis. For it is only in the rural south, speaking in a broad way, that the American negro has remained free from white intermixture.

The difficulties of establishing or disproving this thesis would be many. Professor Franz Boaz has found an increased fertility in half-blood Indians.‡ Charles B. Davenport found that some hybrids between blacks and whites in Bermuda and Jamaica showed exceptionally high fecundity.§ But in both of these cases the results are mainly for the first generation, in which, according to Mjoen, no decrease in number of offspring, and an increase in height and weight, are to be expected.

Without holding any brief for the theory described, it is desired here merely to point out that the ethnic and social characteristics of the human beings who inhabit the earth a few thousands of years hence will depend in no small degree upon the existence or non-existence of such a biological principle. The integrating tendencies of the modern world, if unchecked, may be expected to accelerate racial intermixture and approach the production of a uniform hybrid racial stock, together with a uniform cultural type. "If in the past," says Conklin, "God made of one blood all nations of men, it is certain that at present there is being made from all nations one blood."|| But if hybrids between the main racial

**Harmonic and Disharmonic Race Crossings*. See *Eugenics in Race and State*, Vol. II, Scientific Papers of the Second International Congress of Eugenics, held in New York, September 22-28, 1921, pp. 41-61.

†*Distribution and Increase of Negroes in the United States*, in *Eugenics in Race and State*, Vol. II, pp. 166-174.

‡*Popular Science Monthly*, October, 1894.

§*Heredity of Skin Color in Negro-White Crosses*, p. 46.

||*Direction of Human Evolution*, p. 47.

stocks tend toward extinction, one or another different results would follow.

In the United States, as the pure negro blood tended to vanish, the negro population would become increasingly of mixed blood, would reach a maximum number, and would then decrease by sterility on one side, and on the other by the breeding out of negroid characters through further mixtures with the white.* A substantially pure white population would ultimately result.

An alternative outcome would be the preservation of a race of pure blooded negroes, protected by the vigor of their negroid characteristics. This race would suffer losses to the vanishing mixed-blood group, but to the same degree that these losses occurred, the tendency toward racial purity would be strengthened by selection among those who remained uncontaminated by white blood. Preservation of the corresponding culture type might be expected for the same reason, though perhaps to a less degree. That is, those variants from the black stock whose intelligence and temperament inclined them favorably toward the culture of the white stock, and *vice versa*, would be in the main the same individuals whose blood would be lost to the black by intermixture with the white.

Enough has been said of this question to show that a biological law of the

kind suggested by Dr. Mjoen's studies *may possibly* be setting a lower limit to the possibilities of racial and cultural amalgamation between two peoples so diverse as the two major races in the United States.

The location of the upper biological limits upon society are more difficult to establish than some, at least, of the lower limits. New or non-existent types of human beings would not have to be evolved in order to extend the upper limits and bring higher forms of society—now wholly impossible—within the range of practicability. A shifting of the median or the mode might suffice. Or so the Eugenist contends. He would ask for nothing more than that the *protocracy* of this generation (to employ Giddings' term) might become the parents of the next. Can society continue to "advance" without such a modal shift in the direction of the more highly endowed individuals? Can it avoid retrogression if a modal shift in the opposite direction is not stopped? These questions are still being answered on the basis of temperament and emotion. It is to be hoped that biological and sociological science may between them some day accumulate a sufficient body of *facts*, so that the biological limits which condition society may be accurately determined.

*Cf HARRY H. LAUGHLIN, *Race Assimilation by the Pure Sire Method*, *Journal of Heredity*, July-August, 1920.

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SPIKES OF TWO POULARD VARIETIES OF WHEAT

FIGURE 30. These varieties are known as "composite" or "many-headed" wheat. In this type the rachis is branched or composite, but only one spikelet is borne at each rachis node. The variation described in this paper has supernumerary spikelets, and differs from the Poulard varieties by having a single unbranched rachis, and by the occurrence at many nodes of more than one spikelet at a single node of the rachis.